

CLAIMS

What is claimed is:

20. A method of scanning an image by reading and scanning an original document line by line using an image sensor, the method comprising:

 determining whether a first side of the periphery of the original document is detected while moving the image sensor;

 detecting first and second reference points respectively representing first and second end points of the first side;

 scanning an image between the first and second reference points;

 determining whether a second side of the original document opposite to the first side, is detected; and

 stopping the scanning.

21. The method according to claim 20, wherein the determining whether the first side of the periphery of the original document is detected comprises:

 determining whether a first straight line image corresponding to the first side is detected; and

 if the first straight line image is detected, determining whether second and third straight line images are detected more than a predetermined distance from the first and second end points of the first straight line image in a moving direction of the image sensor, and detecting the first straight line image as the first side.

22. The method according to claim 21, wherein a starting point and an ending point of the first side correspond to the first and second end points of the first straight line image.

23. The method according to claim 20, wherein the scanning the image between the first and second reference points comprises:

 detecting a third reference point having a predetermined distance from the first reference point, and a fourth reference point having the predetermined distance from the second reference point; and

scanning between the first and third reference points and between the second and fourth reference points as an outstanding- periphery portion of the image, and scanning between the third and fourth reference points as a general portion of the image.

24. The method according to claim 23, wherein the scanning as the outstanding-periphery portion comprises scanning a predetermined line as the outstanding- periphery portion after the detecting of the first side, and the general portion is scanned after the scanning of the predetermined line.

25. The method according to claim 20, wherein the determining whether the second side of the original document is detected comprises:

determining whether a fourth straight line image opposite to the first straight line image is detected; and

if the fourth straight line image is detected, determining whether second and third straight line images are detected more than a predetermined distance from ends of the fourth straight line image in a moving direction of the image sensor, and detecting the fourth straight line image as the second side.

26. The method according to claim 21, wherein the second and third straight-line images respectively correspond to the second side and a third side of the document.

27. The method according to claim 21, further comprising determining whether the detected second and third straight line images are at the first and second end points, wherein the moving of the image sensor occurs after the determining that the second and third straight line images are not at the first and second end points.

28. An apparatus for scanning an image by reading and scanning an original document line by line, the apparatus comprising:

- an image sensor scanning an image of the original document;
- a periphery detecting portion detecting a periphery of the original document;
- a reference point detecting portion detecting a plurality of reference points from the periphery of the original document; and

an image scanning controlling portion controlling the image sensor to scan the image based on the detecting by the periphery detecting portion and the reference point detecting portion.

29. The apparatus according to claim 28, wherein the periphery detecting portion comprises:

a first detecting portion detecting a first straight line image corresponding to a first side of the periphery of the original document;

a second detecting portion detecting whether second and third straight line images are detected more than a first predetermined distance from first and second end points of the first straight line image in a moving direction of the image;

a third detecting portion detecting a fourth straight line image corresponding to a second side of the original document; and

a fourth detecting portion detecting whether the second and third straight line images are detected further than a second predetermined distance from end points of the fourth straight line image in the moving direction of the image sensor.

30. The apparatus according to claim 29, wherein the plurality of reference points detected by the reference point detecting portion comprise first and second reference points representing first and second end points of the first side and the image scanning controlling portion comprises:

a detailed-reference-point detecting portion detecting a third reference point having a third predetermined distance from the first reference point and a fourth reference point having the third predetermined distance from the second reference point; and

a classified image scanning and processing portion to respond to the detected first, second, third, and fourth reference points, controls the image sensor to scan between the first and third reference points and between the second and fourth reference points as an outstanding- periphery portion of the image of the original document, and controls the image sensor to scan between the third and fourth reference points as a general portion of the image of the original document.

31. The apparatus according to claim 30, wherein the classified image scanning and processing portion controls the image sensor to scan a predetermined line as the outstanding-periphery image after the first side is detected, and controls the image sensor to scan past the predetermined line in the moving direction of the image sensor as the general portion.

32. The apparatus according to claim 28, further comprising a flatbed, wherein the image sensor is moved below the flatbed.

33. A method comprising:

moving an image sensor a single time from a first side of a document to a second side of the document opposite the first side;

detecting a size of the document during the moving; and
scanning the document during the moving.

34. The method according to claim 33, wherein the scanning comprises scanning the document line by line.

35. The method according to claim 33, wherein the scanning comprises scanning a rectangular document.

36. The method according to claim 33, further comprising:

detecting second and third straight line images; and
determining whether the second and third straight line images are respectively second and third sides of the document.

37. The method according to claim 33, wherein the determining whether the second and third straight line images are second and third sides comprises:

detecting first and second end points of the first side; and
determining whether the second and third straight line images are further than a predetermined distance from the first and second end points.

38. The method according to claim 33, wherein the moving comprises moving the image sensor only within an area of the scanned document.